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Amendment
Attorney Docket No. H01.2B-11378-US01

Amendments To The Drawings:

None.

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Remarks

This Amendment is in response to the Office Action dated **September 9, 2005**.

The Examiner objected to the specification; rejected claims 1-4, 7-18, 20, and 21 as anticipated by Kriz; rejected claims 5-6 as obvious over Kriz, and claim 19 on Kriz further in view of Chen.

Objections to the Specification

Applicant has amended the specification as suggested by the Examiner, except for paragraph starting on page 8, line 21. This language has been used by the undersigned law firm in many patent applications without objection. Therefore, applicant respectfully traverses the requirement to delete language.

§102 Rejections

In response to the §102 rejections based on Kriz et al, applicant has amended claim 1, incorporating the limitations of dependent claims 2, 5 and 13, as well as the feature associating the pressure sensor with the actuation surface of the actuating button located outside the device. This feature is fully supported by the specification as filed, on page 7, lines 20-22. Dependent claims 2, 5 and 13 have been cancelled. Claim 1 as amended is believed to distinguish over Kriz.

Kriz et al. (US 2002/0095998 A1) discloses in figure 3 a pipette comprising a piezoelectric force transducer positioned between the plunger button and the plunger. When the user pushes the plunger button the entire load is transmitted through the piezoelectric force transducer. This can damage the transducer respectively its junctions with the plunger button and the plunger especially if a transverse load is exerted on the plunger button additionally to an axial actuation force.

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The inventive proportioning device according to amended claim 1 avoids destructive loads on the sensor because the actuating button is connected to the rod without a force transducer positioned between the actuating button and the rod. So, transverse forces exerted on the actuating button can not damage the sensor. The sensor is essentially loaded by axial forces exerted by the user on the actuation surface of the actuating button. Because the sensor is integrated into the actuating button it is not necessary to provide strong junctions between a transducer and the plunger button and the rod. The sensor can easily be integrated into the inventive structure.

Applicant has added a new independent claim 22, which is a combination of original claim 1 with the feature that:

the electric control (17) switching the electric driving motor (14) off when the sensor (12) detects a heavy increase in the force being applied to the actuating device (3), indicating that the actuating device (3) has reached a stop.

This feature is fully supported in the specification as filed, at page 5, lines 27-28.

The pipette according to figure 3 of Kriz et al is provided with an arm 106 extending from shaft 104 for closing overblow stop detect switch 108 when plunger 60 reaches the end of its stroke to prevent motor 98 from further driving plunger 60 in the downward direction. Motor stop does not prevent the user from driving a plunger 20 further in downward direction. So the additional switch requires additional space and is expensive, the missing limitation of the plunger stroke is user unfriendly.

The inventive proportioning device according to the new independent claim 22 comprises a control which switches the driving motor off when the sensor detects an increase of the force which is typical for the arrival at a stop. An additional space requiring an expensive

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switch is avoided. The user is hindered from further pushing the piston downwards, as the motor is switched off simultaneously to the arrival at the stop.

Therefore, Kriz does not anticipate claim 1, or its dependent claims, or new independent claim 22.

The obviousness rejections based on Kriz are also believed overcome, because Kriz fails to meet all the limitations of either independent claims 1 or 22.

Respectfully submitted,

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